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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,853	01/11/2007	Paul Alex Romagny	294405US6X PCT	2758
22850 7590 09/11/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MULLINS, BURTON S	
			ART UNIT 2834	PAPER NUMBER
			NOTIFICATION DATE 09/11/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/587,853	<b>Applicant(s)</b> ROMAGNY ET AL.	
	<b>Examiner</b> BURTON MULLINS	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23,25 and 29-32 is/are rejected.
- 7) ☒ Claim(s) 24,26-28 and 33-44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/06</u>   | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 30 October 2006 has been considered by the examiner.

### ***Oath/Declaration***

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02. The oath or declaration is defective because: It does not identify the foreign application for patent or inventor's certificate on which priority is claimed pursuant to 37 CFR 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month and year of its filing.

### ***Response to Amendment***

4. The preliminary amendment filed on 18 August 2006 including a new abstract and new claims 23-44 has been entered.

***Drawings***

5. Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
6. The drawings are further objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “output rotor is inserted into an input rotor” (claim 30) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

7. The disclosure is objected to because of the following informalities: In paragraph [0024], of the specification as it appears in the related US Patent Publication US 2007/0096574, reference is made to “U.S.Pat.No. 5,840,173”; however, this appears to be a mis-print as AU 5,840,173 is referred to in the specification on p.4:5. Clarification and/or appropriate correction is required.

### ***Claim Objections***

8. Claim 23 is objected to because of the following informalities: On lines 9-10, “...a second yoke in a form of a second magnetic circuit or of a second yoke...” is redundant. Further, since a “yoke” is by definition a “magnetic circuit” it is not clear how the phrase “in a form of a second magnetic circuit” further distinguishes the “second yoke”. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 23 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Seguchi (US 6,380,653). Seguchi teaches an electromagnetic coupler, comprising: a first electric machine comprising a first stator 1210 having an axis bearing at least one first coil 1211 wound on a first fixed yoke 1212 (Fig.1), and configured to be coupled by magnetic induction with a first part (poles 1311b) of an output rotor (second rotor) 1310 mobile rotation-wise about the axis relative to the first stator 1210 (Figs.1&2), the coupling being provided via an inner drum (first rotor) 1350 (Figs.1&2), mobile rotation-wise about the axis relative to the first stator 1210 and to the first part 1311b and spaced apart from the first part 1311b and from the first yoke 1212 by a first air gap and a second air gap, respectively (not numbered, Figs.1&2); a second electric machine having an axis comprising a second stator 1410 bearing at least one second coil 1411 wound on a second yoke 1412 “in a form of a second magnetic circuit or of a second yoke” 1412 [sic], and configured to be coupled by magnetic induction with a second part (poles 1311a) of the output rotor 1310 via a second air gap (not numbered, Fig.2); and an electronic unit (ECU) 500 configured to supply alternating current to the first coil 1211 (three phase; c.3:50-51), wherein the first coil 1211 is wound on the first yoke 1212 “about the axis of the first stator” in that the first coil 1211 is wound in the cylindrical first core 1212, which is co-axial with the axis; thus, the first coil and core are “about the axis of the first stator” 1210.

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Regarding claim 25, in the same way that first coil 1211 is wound “about the axis of the first stator”, an annular second coil 1411 is wound about the axis of the second electric machine, i.e., in cylindrical second yoke 1412.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seguchi (US 6,380,653) in view of Dade et al. (US 5,783,893). Seguchi substantially teaches applicant’s invention including an output (second) rotor 1310 with a second part (poles) 1311a; however, the second part of the output rotor does not comprise “a crown of outer magnets in line with and spaced apart from the second yoke by the second air gap.”

Dade teaches a multiple stator machine including an output rotor 28 with a second part facing outer stator 48 and comprising a crown of outer magnets 68 in line with and spaced apart from the second yoke 48 by the second air gap 100 (Fig.1). The permanent magnet rotor allows for independent operation, for example, if one stator is damaged (c.1:45-c.2:15).

It would have been obvious to modify Seguchi and provide a crown of outer magnets in line with and spaced apart from the second yoke by the second air gap as in Dade since this would have allowed for independent operation.

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13. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seguchi (US 6,380,653). Seguchi substantially teaches applicant's invention including an output (second) rotor 1310 and an input (first) rotor 1350; however, the output rotor 1310 is not "inserted into an input rotor." However, this would have been obvious since it has been held that reversal of essential working parts of a device involves ordinary skill. In re Einstein, 8 USPQ 167.

14. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seguchi (US 6,380,653) in view of applicant's admitted prior art (specification paragraphs [0088]-[0090]). Seguchi teaches an input rotor 1350 comprising a magnetic material (since it conducts flux), but does not specifically teach that the input rotor is "at least partly covered by a binding band made of a magnetic material of type Fe-17.5Cr-0.5C." However, applicant discloses a binding band of magnetic material Fe-17.5Cr-0.5C of type YEP-FA1 marketed by Hitachi, with high or low permeability (depending upon local heat treatment) and made by "Slinky" or edgewise rolling of a sheared strip. It would have been obvious to modify Seguchi and provide a binding band of magnetic material per the prior art since this would have improved localized rotor permeability.

#### ***Allowable Subject Matter***

15. Claims 24, 26-28 and 33-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach the claimed electromagnetic coupler including, inter alia, "the first yoke is roughly annular having an axis and has a U-shaped transverse cross section,

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first and second flanges of the first yoke being terminated by first and second surfaces spaced apart from the inner drum by the second air gap” (claim 24); or “the second yoke is roughly annular having an axis and presents a U-shaped transverse cross section in which the first and second flanges have a regularly crenellated profile” (claim 26); or “the second yoke is roughly annular having an axis and presents a U-shaped transverse cross section, the first and second flanges of the second yoke being extended by first and second sets of prongs, respectively, disposed alternately, not in contact with each other, in line with and spaced apart from the second part of the output rotor by the second air gap” (claim 28); or “first and second adjacent wafers, each comprising at least one first coil wound, about the axis of the first stator, on a first fixed yoke, the first yokes of first and second wafers being separated by a magnetic decoupling space” (claim 33); or “first and second adjacent wafers, wherein the output rotor comprises a magnetic decoupling space disposed between the first and second wafers, in a plane roughly perpendicular to the axis of the first stator” (claim 34).

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BURTON MULLINS whose telephone number is (571)272-2029. The examiner can normally be reached on 9-5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on

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(571)272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BURTON MULLINS/  
Primary Examiner, Art Unit 2834

bsm  
08 September 2008